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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,635	02/09/2004	Kouichi Kumamoto	KOY-0033	9414
23413	7590	12/09/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			FIDLER, SHELBY LEE	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/774,635	Applicant(s) KUMAMOTO ET AL.	
	Examiner Shelby Fidler	Art Unit 2861	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 5 and 8-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/12/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admission in view of Ylitalo et al. (US 6543890 B1).

With regards to claim 1, Admission discloses an inkjet printer comprising:

a recording head for jetting ink (pg 1, line 11) cured with irradiation of light (pg 2, line 1) onto a recording medium (pg 1, lines 13-14);

a light source for irradiating the light toward the ink jetted on the recording medium, the light source being provided so as to face the recording medium (pg 2, lines 1-6);

a media error detection mechanism for detecting a media error of the recording medium (pg 2, lines 13-15);

a conveyance mechanism for conveying the recording medium in a predetermined direction (conveyance mechanism is inherent with the action of conveyance, pg 2, lines 14-15);

a control device for controlling the recording head and the conveyance mechanism (pg 2, lines 15-17), the control device controlling the conveyance mechanism to stop conveying the recording medium, and controlling the recording head to stop jetting the ink (stops the recording operation, pg 2, lines 16-17), when the media error of the recording medium is detected by the media error detection mechanism (pg 2, lines 18-19).

Admission lacks or does not expressly disclose a protection member. Ylitalo discloses a protection member (shield 20, Figure 1) capable of being placed between the light source and the recording medium (col. 5, lines 1-3) when a media error is detected (col. 3, lines 48-49 show that the shield will cover the light source upon stoppage of the recording medium when a media error is detected).

With regards to claim 4, Admission discloses a control device that stops the recording operation when a media error is detected by the media error detection mechanism (pg 2, lines 16-19). Admission lacks or does not expressly disclose a protection member. Ylitalo discloses that the protection member comprises a driving mechanism (motor 26, Figure 1), wherein the control device controls the driving mechanism to place the protection member between the light source and the recording medium when a media error is detected (col. 3, lines 48-49 show that the shield will cover the light source upon stoppage of the recording medium).

With regards to claim 11, Admission discloses that the ink is UV curable ink capable of being cured with irradiation of ultraviolet rays (pg 2, line 1).

With regards to claim 13, Admission discloses that the printer forms an image by jetting ink onto the recording medium (page 1, lines 20-21).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the admitted invention with Ylitalo's protection member. The motivation for doing so, as taught by Ylitalo, is to enable the amount of radiation reaching the substrate to be precisely controlled (col. 3, lines 18-19).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admission in view of Ylitalo as applied to claim 1 above, and further in view of Setoriyama et al. (US 6415118 B1).

With regards to claim 2, Admission and Ylitalo do not expressly teach that the protection member comprises heat insulating material. Setoriyama teaches of a protection member that comprises heat insulating material (col. 11, lines 35-36).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Admission and Ylitalo's protection member with Setoriyama's heat insulating material. The motivation for doing so, as taught by Setoriyama, is to protect against heat (col. 11, lines 38-39).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admission in view of Ylitalo, as applied to claim 1 above, and further in view of Markham (US 5051758).

With regards to claim 3, Admission and Ylitalo do not expressly teach that the protection member is formed in a meshed shape. Markham teaches forming a protection member in a meshed shape (col. 5, lines 19-20). At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Admission and Ylitalo's protection member with Markham's mesh shape. The motivation for doing so, as taught by Markham, is that the mesh shape provides a smooth surface for contacting the printhead (col. 5, lines 20-21).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admission in view of Ylitalo as applied to claim 11 above, and further in view of Miyabayashi (US 6864302 B2).

With regards to claim 12, Admission and Ylitalo do not expressly teach using cationic polymerization system inks. Miyabayashi teaches using UV curable inks that are cationic polymerization system inks (col. 4, line 28).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Admission and Ylitalo's inks to use Miyabayashi's cationic polymerization system inks. The motivation for doing so, as taught by Miyabayashi, is that cationic polymerization system inks produce images free of blurring or color bleeding (col. 4, lines 26-34).

Claims 1, 4, 6, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litteral (US 5370745) in view of Inaba (JP 11-208069 A).

With regards to claim 1, Litteral teaches of an inkjet printer comprising:

a recording head for jetting ink cured with irradiation of light, onto a recording medium (spray gun, col. 8, line 65);

a light source for irradiating the light toward the ink jetted on the recording medium (col. 9, line 1), the light source being provided so as to face the recording medium (col. 19, lines 6-8);

a conveyance mechanism for conveying the recording medium in a predetermined direction (motor 70, col. 11, lines 20-21); and

a protection member (shutters, col. 19, lines 28-29) capable of being placed between the light source and the recording medium (col. 19, lines 12-13);

Litteral teaches stopping the entire apparatus upon receiving an interruption signal (col. 26, lines 8-10), but does not expressly teach a media error detection mechanism or a control device to stop conveyance and jetting of ink when a media error is detected. Inaba teaches of an error detection mechanism for detecting media error of the recording medium (paragraph 6, lines 1-4); and

a control device for controlling the recording head and the conveyance mechanism (control circuit, Drawing 2), the control device controlling the conveyance mechanism to stop conveying the recording medium (paragraph 9, lines 3-5), and controlling the recording head to stop jetting the ink when the media error of the

recording medium is detected by the media error detection mechanism (paragraph 6, lines 4-6).

With regards to claim 4, Litteral teaches that the protection member is driven by a driving member (shutter solenoids, col. 19, lines 12-14), wherein the control device controls the driving mechanism to place the protection member between the light source and the recording medium upon receiving an interruption signal (col. 26, lines 8-10 show that the entire apparatus is stopped, including closing the shutters). Inaba teaches an interruption signal when the media error is detected by the media error detection mechanism (paragraph 6, lines 3-5).

With regards to claim 6, Litteral teaches a head moving mechanism for moving the recording head of a serial print type in a direction perpendicular to a conveyance direction of the recording medium (moving means 133, Figure 1).

Litteral teaches a control device that stops the entire apparatus upon receiving an interruption signal (col. 26, lines 8-10), but does not expressly teach stopping the head moving mechanism when a media error of the recording medium is detected by the media error detection mechanism. Inaba teaches a control device that controls the head moving mechanism to stop when the media error of the recording medium is detected by the media error detection mechanism (paragraph 6, lines 4-6).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to combine Litteral's invention with Inaba's media error detection and control.

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The motivation for doing so, as taught by Litteral, is to prevent the media from being destroyed by focused ultraviolet light (col. 23, lines 2-5).

With regards to claim 13, Litteral teaches forming an image by jetting the ink onto the recording medium (col. 3, lines 24-26).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Litteral in view of Inaba, as applied to claim 1 above, and further in view of Setoriyama et al. (US 6415118 B1).

With regards to claim 2, Litteral and Inaba do not expressly teach that the protection member comprises heat insulating material. Setoriyama teaches of a protection member that comprises heat insulating material (col. 11, lines 35-36).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Litteral and Inaba's protection member with Setoriyama's heat insulating material. The motivation for doing so, as taught by Setoriyama, is to protect against heat (col. 11, lines 38-39).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Litteral in view of Inaba, as applied to claim 1 above, and further in view of Markham (US 5051758).

With regards to claim 3, Litteral and Inaba do not expressly teach that the protection member is formed in a meshed shape. Markham teaches forming a

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protection member in a meshed shape (col. 5, lines 19-20). At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Litteral and Inaba's protection member with Markham's mesh shape. The motivation for doing so, as taught by Markham, is that the mesh shape provides a smooth surface for contacting the printhead (col. 5, lines 20-21).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Litteral in view of Inaba as applied to claim 1 above, and further in view of Koizumi et al. (US 5006867).

With regards to claim 7, Litteral and Inaba does not teach that the recording head is a line print type. Koizumi teaches of a line print type printhead (col. 1, line 15).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Litteral and Inaba's invention with the printhead of Koizumi. The motivation for doing so, as taught by Koizumi, is that the line print type printheads are faster than the serial type printheads (col. 1, lines 39-42).

Claim Objections

Claims 5 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claims 5, the following is a statement of reasons for the indication of allowable subject matter: The primary reason for the indication of allowance of claim 5 is the inclusion of the limitations of a protection member that is placed between the light source and the recording medium when the media error is detected, further including that the protection member is placed between the recording head and the recording medium. It is these limitations found in the claim, as it is claimed in combination, that has not been found, taught, or suggested by the prior art of record which indicates that this claims are allowable over the prior art.

The most pertinent prior art not relied upon is Bellman et al. (US 6769761 B2). Bellman teaches a protective tape member that covers the printheads. Bellman does not teach that the protective tape member covers a light source.

With regards to claims 8-10, the following is a statement of reasons for the indication of allowable subject matter: The primary reason for the indication of allowance of claims 8-10 is the inclusion of the limitations of measuring the luminous energy before a recording operation is resumed after the media error is detected and the recording operation is stopped. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught, or suggested by the prior art of record which indicates that these claims are allowable over the prior art.

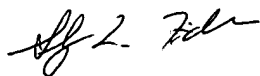
The most pertinent prior art not relied upon is JP 09-058030 A (Ueda). Ueda teaches measuring the illumination of a light source during printing, before

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illumination. However, Ueda does not expressly teach measuring the illumination of a light source after a media error and before recording is resumed.

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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